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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,443	07/01/2005	Antonio Luiz Duarte Braganca	0315-0158PUS1	7833
2292	7590	01/22/2007		
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER MCDONOUGH, JAMES E	
			ART UNIT	PAPER NUMBER
			1755	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/22/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/22/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,443	<b>Applicant(s)</b> BRAGANCA ET AL.	
	<b>Examiner</b> James E. McDonough	<b>Art Unit</b> 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 1,8,10,16,24 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-7,9,11-15,17-23,25-35 and 37-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Applicant's arguments, see page 1, paragraphs 1-5, filed 11/2/2006, with respect to claims 1-47 and Fig. 2 have been fully considered and are persuasive. The rejection of claims 1-47 and Fig. 2 has been withdrawn.

#### *Previous rejection*

6. Claims 2-7, 9, 11-15, 17-23, 25-35, and 37-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciani et al., EP 0 480 435 (hereafter referred to as Luciani I).

Luciani I discloses the invention substantially as claimed (p. 2, 1. 25-44; examples).

Luciani I lacks disclosure of the thermal treatment of step (g) and the washing step (h) as well as various preferred embodiments of the present dependent claims.

However, washing is a conventional trivial step in order to remove excess reagents, and the "thermal treatment" is so broad as to read on merely letting a composition sit at room temperature.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Luciani I with a reasonable expectation of obtaining a highly-useful method of making a catalyst component with the expected benefit of the catalyst to be usable in gas phase polymerization processes.

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New claim 48 stands rejected as it is a combination of previous claims that were rejected under this reference.

New claims 49-51 are rejected as being disclosed in the reference.

7. Claims 2-7, 9, 11-15, 17-23, 25-35, and 37-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciani et al., EP 0 522 651 (hereafter referred to as Luciani II).

Luciani II discloses the invention substantially as claimed (p. 2, 1. 27 to p. 3, 1. 35; examples).

Luciani II lacks disclosure of the thermal treatment of step (g) and the washing step (h) as well as various preferred embodiments of the present dependent claims.

However, washing is a conventional trivial step in order to remove excess reagents, and the "thermal treatment" is so broad as to read on merely letting a composition sit at room temperature.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Luciani II with a reasonable expectation of obtaining a highly-useful method of making a catalyst component with the expected benefit of the catalyst to be usable in gas phase polymerization processes.

New claim 48 stands rejected as it is a combination of previous claims that were rejected under this reference.

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New claim 49 is rejected even though the reference does not disclose activating silica through heat treatment, heat treatment is a common method for activating silica.

New claims 50-51 are rejected as being disclosed in the reference.

8. Claims 2-7, 9, 11-15, 17-23, 25-35, and 37-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 91108239 (hereafter referred to as Neste).

Neste discloses the invention substantially as claimed (p. 7, 1. 8-16; examples 1-13).

Neste lacks disclosure of the thermal treatment and washing steps of (g) and (h) respectively.

However, such steps are conventional in chemical synthesis.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Neste with a reasonable expectation of obtaining a highly-useful method of making a catalyst component with the expected benefit of the catalyst to be usable in gas phase polymerization processes.

New claim 48 stands rejected as it is a combination of previous claims that were rejected under this reference.

New claims 49-51 are rejected as being disclosed in the reference.

***Response to arguments***

Applicant's argument have been fully considered and are found to be not persuasive.

(1)The Examiner states that no evidence has been provided which might show that the invention according to Lucian I, Lucian II and Neste differs from that of the present application. The thermal step (g) and the washing step (h) are considered by the Examiner as the only differences between the present invention and the prior art.

However, the Applicants wish to point out that the inventiveness of the present invention does not reside exclusively in steps (g) and (h) as stated by the Examiner, but more specifically in the composition of the catalyst which contains Ti, Mg, C1, alkoxy groups and organometallic compounds and in the use of a non-polar organic solvent to impregnate the particular silica in step (a), which produces a catalyst having a different behavior which in turns produces a different final product in the ethylene polymerization and copolymerization process. In this connection, claims 1, 8, 10, 14 and 16 were combined in the newly added claim 48 and claims 1, 8, 10, 14 and 16 have been cancelled from the present application.

Luciani I, Luciani II, and Neste all contain Ti, Mg, Cl, alkoxy groups and organometallic compounds. Therefore, inclusion of these components do not serve to distinguish this application over the prior art.

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In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., non-polar organic solvent) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(2) In order to demonstrate the technical effects of the present invention over Luciani I, the Applicants present herein below the results of the test conducted to compare the properties of polymers obtained by polymerization or copolymerization processes using catalysts prepared according to Luciani I or the present invention. These test results can be presented in the form of a declaration under 37 CFR 1.132 if the Examiner considers this to be necessary.

The new tests described herein below have been carried out using exactly the same polymerization conditions employed in the examples of Luciani I, but using different catalytic systems: catalyst according to Example 1 of Luciani I or catalyst according to Examples 11 or 12 of the present application.

The applicant's unexpected claims are **not** commensurate in scope with the claimed invention. See *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980) and MPEP 706.02(d). Further more any differences between the claimed invention and the prior art may be expected to result in some differences in properties.

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The issue is whether the properties differ to such an extent that the difference is really unexpected. In re Merk & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(3) In connection with Luciani II, the following differences can be observed when compared to the present invention:

Feature 1: the organometallic compound, which in Luciani II is also the chlorinating agent, is impregnated into the support separately in step (a) and an additional halogenating (chlorinating) agent is employed in step (f).

Feature 2: the ratio of the amount of silica support to catalyst component used;

Feature 3: the ratio of the amount of silica support hydroxyl groups to organometallic component(s) used and the nature of said components;

Feature 4: the ratio of the amount of silica to magnesium component used;

Feature 5: a reducing agent is present;

Feature 6: no additional  $\text{TiCl}_4$  is employed;

Feature 7: the organic solvent used during the impregnation of the activated silica is non-polar;

Feature 8: the supernatant liquid from step (a) is removed by means of settling, siphoning, filtration or centrifugation (Luciani II makes use of evaporation);

Feature 9: an additional washing step is employed (step (h)).



The applicant's unexpected claims are **not** commensurate in scope with the claimed invention. See *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980) and MPEP 706.02(d). Further more any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. *In re Merk & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(4) Similar differences can be observed when comparing the catalyst of Neste with the present invention as illustrated in the Table below:

Upon analyzing the polymerization results in Neste, One can observe that the greatest density obtained is 0.36 g/cm<sup>3</sup> for HDPE and 0.3 lg/cm<sup>3</sup> for LLDPE.

Clearly, the Applicants have demonstrated hereinabove, a catalyst which is unique in its nature because of the process by which it is produced and, as such, is effective in producing polymers and copolymers of polyethylene with narrow molecular weight distributions of high density polyethylene and linear low density polyethylene which possess both a controlled morphology and improved structure. The present invention contains many features which are effective in producing the Applicants' inventive contribution and as pointed out hereinabove, the prior art relied upon by the Examiner fails to show many of the features recited in the claims of the present application.

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The applicant's unexpected claims are **not** commensurate in scope with the claimed invention. See *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980) and MPEP 706.02(d). Further more any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. *In re Merk & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

(27) Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JEM 1/12/2007

*Aileen Felton*  
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**PRIMARY EXAMINER**